

AMENDMENTS TO THE CLAIMS

1-47. (Cancelled)

48. (New) An ultraviolet light source comprising
an ultraviolet lamp;
a microwave energy source for exciting said ultraviolet lamp; and
a waveguide for guiding microwave energy originating from said
microwave energy source to the ultraviolet lamp, said waveguide being
UV transparent and wholly surrounding the ultraviolet lamp.

49. (New) The ultraviolet light source according to claim 48,
wherein the ultraviolet lamp has no electrode.

50. (New) The ultraviolet light source according to claim 49, further
comprising an element or mixture of elements in vapor form.

51. (New) The ultraviolet light source according to claim 50,
wherein said element or mixture of elements comprises mercury, sodium,
sulphur or mixtures of inert gases with mercury compounds.

52. (New) The ultraviolet light source according to claim 49 having a dominant wavelength of 254nm.

53. (New) The ultraviolet light source according to claim 48, wherein the waveguide controls the flow of microwave energy from the enclosure.

54. (New) The ultraviolet light source according to either of claim 48, wherein the waveguide blocks the flow of microwave energy from the enclosure.

55. (New) The ultraviolet light source according to claim 48, wherein the enclosure comprises quartz or a UV-transparent plastic material.

56. (New) The ultraviolet light source according to claim 48, wherein the waveguide comprises a conducting material.

57. (New) The ultraviolet light source according to claim 56, wherein the waveguide comprises a conducting mesh.

58. (New) The ultraviolet light source according to claim 57, wherein the conducting mesh comprises a material selected from the group consisting of copper, aluminum and stainless steel.

59. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet lamp has an elongated form.

60. (New) The ultraviolet light source according to claim 48, wherein the transparent waveguide has a cylindrical or rectangular form.

61. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet lamp has an operating temperature of less than 70°C.

62. (New) The ultraviolet light source according to claim 48, wherein the microwave energy source comprises a magnetron.

63. (New) The ultraviolet light source according to claim 48, additionally comprising a pathguide to guide the microwave energy from the microwave energy source to the ultraviolet lamp.

64. (New) The ultraviolet light source according to claim 63, wherein the pathguide defines an essentially linear path.

65. (New) The ultraviolet light source according to claim 63, wherein the pathguide defines a non-linear path.

66. (New) The ultraviolet light source according to claim 48, additionally comprising a housing for said enclosure.

67. (New) The ultraviolet light source according to claim 66, wherein the housing has an inlet and an outlet and the housing is shaped to guide fluid flow from the inlet, past the enclosure to the outlet.

68. (New) The ultraviolet light source according to claim 67, wherein said fluid comprises water or air.

69. (New) The ultraviolet light source according to claim 67, additionally comprising a pump for pumping fluid from the inlet, past the enclosure to the outlet.

70. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet light source is for sterilising a substance.

71. (New) The ultraviolet light source according to claim 70, wherein said substance is selected from the group consisting of water for human consumption; waste water; sewage; metallic and non-metallic objects; and air.

72. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet light source is for curing glues and inks.

73. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet light source is for erasing eproms.

74. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet light source is for killing bacteria on the surface of goods.

75. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet light source is used in an air conditioning system.

76. (New) The ultraviolet light source according to claim 48, wherein the ultraviolet light source is used in a high intensity lighting system.

77. (New) A lamp arrangement comprising
an ultraviolet lamp, said lamp being excitable by microwave energy; and

a waveguide for guiding microwave energy originating from a microwave energy source to the ultraviolet lamp, said waveguide being UV transparent and wholly surrounding the ultraviolet lamp.

78. (New) The lamp arrangement according to claim 77, wherein the ultraviolet lamp has no electrode.

79. (New) A method of sterilising a substance comprising the steps of:

guiding microwave energy from a microwave energy source to an ultraviolet lamp to produce ultraviolet radiation;

wholly surrounding the ultraviolet lamp with a UV transparent waveguide; and

exposing the substance to said ultraviolet radiation.

80. (New) The method according to claim 79, wherein the substance flows past said enclosure.